

### Abstract of the Disclosure

Provided are a polarization mode dispersion (PMD) compensator and method for automatically and rapidly compensating PMD occurring in an optical transmission fiber in a high-speed optical transmission system. The polarization mode dispersion compensator includes a separator and a differential time delay remover. The separator aligns orthogonal first and second polarization components of a received optical signal with respect to two orthogonal axes of a polarization beam splitter using optical signal information output via a second path of a first path and the second path of the two outputs of the polarization beam splitter, splits the first and second polarization components, and transmits the first polarization component via the first path and the second polarization component via the second path. The differential time delay remover receives the first and second polarization components that have been split to remove a differential time delay between the first and second polarization components.